Student Name

CS 340 – Operating Systems

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Homework #2 – Unix

***Part A & B***

*Root Directory (/)*

**Number 1.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus ~]$ cd /

[ENTERYOURVENUSNAMEHERE@venus /]$ ls -l

*Displayed:*

total 192

drwxr-xr-x 2 root root 4096 Feb 6 04:02 bin

drwxr-xr-x 4 root root 12288 Feb 4 05:15 boot

drwxr-xr-x 2 root root 4096 Aug 26 09:18 cs323

drwxr-xr-x 9 root root 6000 Feb 4 04:59 dev

drwxr-xr-x 91 root root 12288 Feb 18 09:42 etc

drwxr-xr-x 26 root root 4096 Jan 22 09:25 home

*Binary Directory (/bin)*

**Number 2.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus /]$ cd /bin

[ENTERYOURVENUSNAMEHERE@venus bin]$ ls –l

**Number 3.)**

*Displayed:*

total 5888

-rwxr-xr-x 1 root root 18316 Jun 1 2009 alsaunmute

-rwxr-xr-x 1 root root 4576 Jan 20 11:46 arch

-rwxr-xr-x 1 root root 94260 Dec 17 2008 ash

-rwxr-xr-x 1 root root 517252 Dec 17 2008 ash.static

-rwxr-xr-x 1 root root 12668 Feb 21 2005 aumix-minimal

lrwxrwxrwx 1 root root 4 May 30 2006 awk -> gawk

**Number 4.)**

List 6 commands that you recognize:

1. Kill

2. Mount

3. Sleep

4. Pwd

5. Bash

6. Echo

*Device Directory (/dev)*

**Number 5.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus bin]$ cd /dev

[ENTERYOURVENUSNAMEHERE@venus dev]$ ls -l

*Displayed:*

total 0

crw------- 1 root root 36, 8 Jan 30 14:20 arpd

crw------- 1 root root 14, 4 Jan 30 19:21 audio

lrwxrwxrwx 1 root root 3 Jan 30 19:21 cdrom -> hdb

lrwxrwxrwx 1 root root 3 Jan 30 19:21 cdwriter -> hda

crw------- 1 root root 5, 1 Jan 30 19:22 console

lrwxrwxrwx 1 root root 11 Jan 30 19:20 core -> /proc/kcore

Devices I recognize are:

1. Disk
2. Input
3. Mapper
4. Ram
5. Log
6. Net

*ETC Directory (/etc)*

**Number 6.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus dev]$ cd /etc

[ENTERYOURVENUSNAMEHERE@venus etc]$ ls -l

**Number 7.)**

*Displayed:*

total 4020

-rw-r--r-- 1 root root 15282 May 2 2007 a2ps.cfg

-rw-r--r-- 1 root root 2562 May 2 2007 a2ps-site.cfg

drwxr-xr-x 4 root root 4096 May 22 2009 acpi

-rw-r--r-- 1 root root 48 Jan 30 19:19 adjtime

drwxr-xr-x 4 root root 4096 May 30 2006 alchemist

-rw-r--r-- 1 root root 1574 Oct 8 2004 aliases

Files I’ve heard of:

1. bluetooth
2. diskdump
3. firmware
4. fonts
5. mail
6. security

**Number 8.)**

The most used permission is: -rw-r--r—

1. For Owner: rw is the most used permission means read and write available.
2. For Group: r is the most used permission means read only available.
3. For Others: r is the most used permission means read only available.

**Number 9.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus etc]$ cat profile

*Displayed:*

# /etc/profile

# System wide environment and startup programs, for login setup

# Functions and aliases go in /etc/bashrc

pathmunge () {

if ! echo $PATH | /bin/egrep -q "(^|:)$1($|:)" ; then

if [ "$2" = "after" ] ; then

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus etc]$ cat login.defs

*Displayed:*

# \*REQUIRED\*

# Directory where mailboxes reside, \_or\_ name of file, relative to the

# home directory. If you \_do\_ define both, MAIL\_DIR takes precedence.

# QMAIL\_DIR is for Qmail

#

#QMAIL\_DIR Maildir

**Number 10.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus etc]$ cat passwd |more

*Displayed:*

root:x:0:0:root:/root:/bin/bash

bin:x:1:1:bin:/bin:/sbin/nologin

daemon:x:2:2:daemon:/sbin:/sbin/nologin

adm:x:3:4:adm:/var/adm:/sbin/nologin

lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin

sync:x:5:0:sync:/sbin:/bin/sync

My Name:

ENTERYOURVENUSNAMEHERE:x:1849:800:JOSEPH PIAZZA :/home/sp10/340/ENTERYOURVENUSNAMEHERE:/bin/bash

**Number 11.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus etc]$ echo $HOME

*Displayed:*

/home/sp10/340/ENTERYOURVENUSNAMEHERE

**Number 12.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus etc]$ pwd

*Displayed:*

/etc

***Part C***

**Number 1.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus etc]$ echo $SHELL

*Displayed:*

/bin/bash

**Number 2.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus etc]$ chsh -l

*Displayed:*

/bin/sh

/bin/bash

/sbin/nologin

/bin/ash

/bin/bsh

/bin/ksh

/usr/bin/ksh

/usr/bin/pdksh

/bin/tcsh

/bin/csh

/bin/zsh

**Number 3.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus etc]$ chsh

*Displayed:*

Changing shell for ENTERYOURVENUSNAMEHERE.

Password:

New shell [/bin/bash]: /bin/tcsh

Shell changed.

**Number 4.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus ~]$ echo $SHELL

*Displayed:*

/bin/tcsh

**Number 5.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus ~]$ ps

*Displayed:*

Before SHELL change:

PID TTY TIME CMD

25947 pts/5 00:00:00 bash

26043 pts/5 00:00:00 ps

After SHELL change:

PID TTY TIME CMD

26153 pts/5 00:00:00 tcsh

26179 pts/5 00:00:00 ps

**Number 6.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus ~]$ set|more

*Displayed:*

COLORS /etc/DIR\_COLORS

\_ PS1

addsuffix

argv ()

autologout 60

**Number 7.)**

CDPATH: path (/usr/kerberos/bin /usr/local/bin /bin /usr/bin /usr/X11R6/bin)

ENV: venus tcsh 6.13.00

PS1: prompt [%n@%m %c]$

PWD: cwd /home/sp10/340/ENTERYOURVENUSNAMEHERE

HOME: home /home/sp10/340/ENTERYOURVENUSNAMEHERE

TERM: term vt100

**Number 8.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus ~]$ man setenv

Dispayed:

XXX

XXX WARNING: old character encoding and/or character set

XXX

SETENV(P) SETENV(P)

NAME

setenv - add or change environment variable

SYNOPSIS

#include <stdlib.h>

int setenv(const char \*envname, const char \*envval, int overwrite);

**Number 9.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus ~]$ csh

[ENTERYOURVENUSNAMEHERE@venus ~]$ setenv|more

*Displayed:*

USER=ENTERYOURVENUSNAMEHERE

LOGNAME=ENTERYOURVENUSNAMEHERE

HOME=/home/sp10/340/ENTERYOURVENUSNAMEHERE

PATH=/usr/kerberos/bin:/usr/local/bin:/bin:/usr/bin:/usr/X11R6/bin

MAIL=/var/spool/mail/ENTERYOURVENUSNAMEHERE

SHELL=/bin/tcsh

SSH\_CLIENT=::ffff:149.4.211.161 64600 22

SSH\_CONNECTION=::ffff:149.4.211.161 64600 ::ffff:149.4.211.180 22

SSH\_TTY=/dev/pts/7

TERM=vt100

HOSTTYPE=i386-linux

VENDOR=intel

OSTYPE=linux

MACHTYPE=i386

SHLVL=2

PWD=/home/sp10/340/ENTERYOURVENUSNAMEHERE

GROUP=underg

HOST=venus

REMOTEHOST=fir.cs.qc.cuny.edu

PERL5LIB=/usr/lib/perl5/site\_perl/5.8.5/i386-linux-thread-multi:/usr/lib/perl5/site\_perl/5.8.5:/usr/lib/perl5/vendor\_perl/5.8.5/i386-linux-thread-multi:/usr/lib/perl5/vendor\_perl/5.8.5

LS\_COLORS=no=00:fi=00:di=01;34:ln=01;36:pi=40;33:so=01;35:bd=40;33;01:cd=40;33;01:or=01;05;37;41:mi=01;05;37;41:ex=01;32:\*.cmd=01;32:\*.exe=01;32:\*.com=01;32:\*.btm=01;32:\*.bat=01;32:\*.sh=01;32:\*.csh=01;32:\*.tar=01;31:\*.tgz=01;31:\*.arj=0

1;31:\*.taz=01;31:\*.lzh=01;31:\*.zip=01;31:\*.z=01;31:\*.Z=01;31:\*.gz=01;31:\*.bz2=01;31:\*.bz=01;31:\*.tz=01;31:\*.rpm=01;31:\*.cpio=01;31:\*.jpg=01;35:\*.gif=01;35:\*.bmp=01;35:\*.xbm=01;35:\*.xpm=01;35:\*.png=01;35:\*.tif=01;35:

G\_BROKEN\_FILENAMES=1

SSH\_ASKPASS=/usr/libexec/openssh/gnome-ssh-askpass

LANG=en\_US.UTF-8

SUPPORTED=en\_US.UTF-8:en\_US:en

LESSOPEN=|/usr/bin/lesspipe.sh %s

HOSTNAME=venus

INPUTRC=/etc/inputrc

***Part D***

**Number 1.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus ~]$ man ps

*Displayed:*

XXX

XXX WARNING: old character encoding and/or character set

XXX

PS(1)

Linux Userâs Manual PS(1)

NAME

ps - report a snapshot of the current processes.

SYNOPSIS

ps [options]

**Number 2.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus ~]$ man ps

*Displayed:*

PROCESS STATE CODES

Here are the different values that the s, stat and state output specifiers

(header "STAT" or "S") will display to describe the state of a process.

D Uninterruptible sleep (usually IO)

R Running or runnable (on run queue)

S Interruptible sleep (waiting for an event to complete)

T Stopped, either by a job control signal or because it is being traced.

W paging (not valid since the 2.6.xx kernel)

X dead (should never be seen)

Z Defunct ("zombie") process, terminated but not reaped by its parent.

For BSD formats and when the stat keyword is used, additional characters may

be displayed:

< high-priority (not nice to other users)

N low-priority (nice to other users)

L has pages locked into memory (for real-time and custom IO)

s is a session leader

l is multi-threaded (using CLONE\_THREAD, like NPTL pthreads do)

+ is in the foreground process group

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus ~]$ ps

*Displayed:*

PID TTY TIME CMD

19299 pts/37 00:00:00 bash <- MY SHELL

19449 pts/37 00:00:00 csh

19487 pts/37 00:00:00 ps

**Number 3.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus ~]$ ps -l

*Displayed:*

F S UID PID PPID C PRI NI ADDR SZ WCHAN TTY TIME CMD

0 S 1849 19299 19298 0 75 0 - 1315 wait pts/37 00:00:00 bash

0 S 1849 19449 19299 0 76 0 - 1415 rt\_sig pts/37 00:00:00 csh

0 R 1849 19539 19449 0 78 0 - 1030 - pts/37 00:00:00 ps

Explained:

F – Field Flag

S – State of Process

UID – User ID

PID – Process ID

PPID – Parent Process ID

C – CPU’s use of the process

PRI – Priority of process

NI – Used to get PRI

ADDR – Address of the process

SZ – Size of the process

WCHAN – The event that the process is waiting for

TTY – Terminal of process

TIME – The CPU time used by the process

CMD – Command beginning used

**Number 4.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus ~]$ top

*Displayed:*

PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND

14212 cs316 25 0 23664 18m 1616 R 100.1 0.4 20968:55 lisp.run

18651 bilo9033 16 0 12492 6748 2964 S 0.7 0.2 0:01.62 emacs

19854 ENTERYOURVENUSNAMEHERE 16 0 2492 1100 772 R 0.7 0.0 0:00.47 top

13987 udsh5249 15 0 8324 1980 1100 S 0.3 0.0 0:43.67 sshd

18802 alayev 15 0 8152 1492 1040 S 0.3 0.0 0:00.37 sshd

1 root 16 0 2712 544 464 S 0.0 0.0 0:14.17 init

2 root RT 0 0 0 0 S 0.0 0.0 0:01.03 migration/0

3 root 34 19 0 0 0 S 0.0 0.0 0:00.09 ksoftirqd/0

4 root RT 0 0 0 0 S 0.0 0.0 0:00.85 migration/1

5 root 34 19 0 0 0 S 0.0 0.0 0:00.08 ksoftirqd/1

6 root 5 -10 0 0 0 S 0.0 0.0 0:00.17 events/0

7 root 5 -10 0 0 0 S 0.0 0.0 0:00.06 events/1

8 root 5 -10 0 0 0 S 0.0 0.0 0:00.01 khelper

9 root 5 -10 0 0 0 S 0.0 0.0 0:00.00 kthread

**Number 5.)**

*Prompt:*

[ENTERYOURVENUSNAMEHERE@venus ~]$ top

*Displayed:*

Tasks: 241 total

Running Processes: 2

Sleeping Processes: 214

Stopped Processes: 24

Zombie Processes: 1